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CONCEPTUALISATION OF “CROWDSOURCING” TERM IN MANAGEMENT SCIENCES

*Regina Lenart-Gansiniec**

Abstract

Background. Crowdsourcing is a relatively new concept, nonetheless it has been raising more and more interest with researchers. This is a result of its potential since it enables improving business processes, creating open innovations, building of competitive advantage, access to experience, information, crowd skills and work, problem solving, crisis management, expanding the organisation’s existing activity and offer, creating the organisation’s image, improving communication with the surroundings, optimising costs of the organisation’s activity. However, although the subject of crowdsourcing constitutes one of the currently emerging directions of research on the basis of management sciences, one observes a peculiar exploration difficulty. It may result from incoherence in conceptualisation or explication of this term.

Research aims. The aim of this article is an attempt, basing on the existing research efforts, to conceptualise crowdsourcing based on management sciences. In the article a proposal of conceptualising the notion of crowdsourcing was presented including its levels.

Methodology. For the needs of specifying, evaluation, and identification of the existing state of knowledge on crowdsourcing, a systematic literature review was conducted. It enabled getting familiar with the results of similar research, its selection and critical analysis and based on that it was used for expanding the earlier findings of other researchers. The biggest, full text databases i.e Ebsco, Elsevier/Springer, Emerald, Proquest, Scopus, and ISI Web of Science, which include the majority of journals on strategic management were analysed. In order to establish the state of knowledge and existing findings a review of databases in Poland: BazEkon and CEON was also conducted. 54 elaborations of English language databases and 41 from Polish language databases from the period of 2006–2017 were analysed.

Key findings. A review of the scientific output revealed incoherence in the conceptualisation of the term of crowdsourcing. The approaches proposed in the existing literature are inadequate and do not allow for full understanding of crowdsourcing.

Keywords: crowdsourcing, conceptualisation, premises.

* Jagiellonian University. E-mail: regina.lenart-gansiniec@uj.edu.pl

INTRODUCTION

Crowdsourcing has emerged in the last decade as an important subject in the field of management (Howe, 2006; Brabham, 2013). Nonetheless, on the basis of management sciences it is a relatively new, but simultaneously a highly up-to-date area of scientific research. The growth of interest may be a result of its potential, but also a dynamic development of ICT technologies. In addition, online communities turn out to be the sources of innovations and knowledge valuable to the organisation. By the same token, crowdsourcing gains on importance. In economic practice it has become a megatrend which is more and more often reached for by organisations. It is because it contributes to creating of open innovations (Chesbrough, 2005; Pichlak, 2012), problem solving, building of competitive advantage (Leimeister & Zogaj, 2013), and improving business processes (Burger-Helmchen & Pénin, 2010; Brabham, 2008). However, despite the growing popularity amongst researchers of the subject matter, the existing state of knowledge should be considered inadequate, as it does not provide comprehensive knowledge on conceptualisation, explication, or defining of the term of crowdsourcing.

The aim of this article is an attempt, basing on the existing research efforts, to conceptualise crowdsourcing based on management sciences. The article was written based on a systematic literature review – which enabled selection, critical assessment of the existing research, identification, evaluation, and synthesis of the results of all principal research studies and theoretical approaches.

The biggest, full text databases i.e. Ebsco, Elsevier/Springer, Emerald, Proquest, Scopus, and ISI Web of Science, which include the majority of journals on strategic management were analysed. In order to establish the state of knowledge and existing findings a review of databases in Poland: BazEkon and CEON was also conducted. 54 elaborations of English language databases and 41 from Polish language databases from the period of 2006–2017 were analysed.

The article was divided into three parts. In the first part the essence of crowdsourcing was presented. The second part presents the methodology of a systematic literature review. Whereas, the third and last part covers crowdsourcing conceptualisation on the basis of management sciences.

THE ESSENCE OF CROWDSOURCING

Crowdsourcing is considered to be an emerging paradigm. The term crowdsourcing was defined for the first time by J. Howe. He defined crowdsourcing as an "act of a company or institution taking a function once performed by employees and outsourcing it to an undefined (and generally large) network of people in the form of an open call. This can take the form of peer-production (when the job is performed collaboratively), but is also often undertaken by sole individuals" (Howe, 2006). With time the author expanded this definition by using the rules of an open source, not only in the scope of programming, but also delegating tasks to the crowd, adapting the crowd's talent and knowledge to the organisation's needs.

Since the moment of J. Howe's publication there has been a growing interest in the problematic aspects of crowdsourcing, however it is difficult to consider them as spectacular. Still the majority of the publications make reference to J. Howe and the continuator of his concept D.C. Brabham (2008). However, one may observe that J. Howe's publication deserves to be called *seminal studies*, and so it is the leading one, which constitutes an inspiration for further research studies (according to Google Scholar the number of citations as for 03.04.2017 was equal to 3,756). Since that moment a gradual increase of researchers' interest in these problematic aspects has been observed. The existing conceptual and research efforts are however a proof of various premises for focusing on crowdsourcing (Table 1)

It can be ascertained that crowdsourcing constitutes an up-to-date and important direction of scientific research. However, the above conditions indicate a clear shortage of a coherent conceptual framework and a significant terminological chaos. It seems to be of particular importance to define crowdsourcing, taking into account its processes. It should be noted that in many publications foreign researchers and also domestic scientists attempted to define crowdsourcing, specify its essence, typology, or ways of measurement. Placing the accent on theoretical considerations causes that still in the theoretical layer as well as in the practical one there is "terminological chaos", a too big dominance of theoretical approaches persists and many areas are completely untouched or the light is poorly cast on them in the literature. This may result from dispersion in over one hundred research

areas. It appears as the subject of research for many scholars of many disciplines. For instance: it is analysed as a method of data collecting, mapping, disclosing (Hudson-Smith et al., 2009), acquiring ideas and concepts of employees (Stieger et al., 2012), generating ideas and decision making (Hossain, 2012; Rosen, 2011).

Table 1. The premises for research on crowdsourcing in publications in the area of management

Author/authors	Premises
English language databases	
Zuchowski et al. (2016)	Growth of crowdsourcing internal importance in practice
Muhdi et al. (2011)	Better understanding of crowdsourcing processes
Feller et al. (2012)	Identification of crowdsourcing processes and their orchestration
Perera & Perera (2014)	Identification of crowdsourcing advantages
Saxton et al. (2013)	Better understanding of the phenomenon alone
Yejun Xu et al. (2015)	Creation of a scale for measuring the degree of crowdsourcing introduction in a company
Ali-Hassan & Allam (2016)	Identification of the classification of actions within crowdsourcing
Nakatsu et al. (2014)	Lack of systematics to study the multidimensional nature of a task's complexity
Sievers (2015)	Frameworks for practitioners searching for practical application and understanding of crowdsourcing
Polish language databases	
Gajewski (2010)	Theoretical bases of the concept of crowd wisdom, with particular inclusion of its impact on technological development rate
Grela (2014)	Presenting the idea of crowdsourcing through a definition of this phenomenon and presentation of the basic typology of crowdsourcing
Józwiak (2013)	Possibility of using the concept of gamification within crowdsourcing services.
Józwiak (2013)	Research on the trends and usages of crowdsourcing platforms
Kopecka-Piech & Idzikowski (2012)	Conceptual arrangement and characterisation of the possibilities of using the new media in the process of knowledge brokering or in a broader sense – the intellectual capital
Świeszczak & Świeszczak (2016)	Distinction of the common elements of crowdsourcing initiatives
Kania (2014)	Searching for critical factors of crowdsourcing project success and failure

Table 1. cd.

Author/authors	Premises
Kowalska (2015)	Identification of crowdsourcing mechanisms
Mazurek (2015)	Identification of the rules of crowdsourcing platform functioning and the regularities governing the organisation processes in the relation between the suppliers and receivers
Krawiec (2014b)	Pointing out to the possibility of planning measurable areas in crowdsourcing projects
Krawiec (2014a)	Pointing out to the importance of developing of a crowdsourcing project by a company that wishes to make use of the benefaction of this method

Source: own elaboration.

OUTSOURCING, PARTNER PRODUCTION, OPEN INNOVATION, OPEN SOURCE, AND CROWDSOURCING

In the existing output from the scope of management sciences a specific dualism of perceiving crowdsourcing can be observed. On the one hand, publications treat crowdsourcing equally to open innovations. On the other hand, however, dissertations narrow down research to user innovation. An analysis of the existing state of affairs indicates that the notion of crowdsourcing has not been unambiguously explained, whereas some notions are treated as synonyms. It should however be emphasised that crowdsourcing is not the same thing as outsourcing, open innovations, user innovation, or open source. There are differences appearing among them (Table 2). In this table intersections were highlighted, especially with user innovation and open source. This is to do with the medium, which is the Internet, type of relations, number of users, and organisation motivation.

Crowdsourcing vs. outsourcing. Only a few authors consider crowdsourcing to be a form of outsourcing (Schenk & Guittard, 2009). It seems, however, that the notion of crowdsourcing compared with outsourcing has a greater semantic range since it refers to taking up of various tasks and not only services or products – as it is in case of outsourcing. Outsourcing is connected with the organisation's internal processes. A motivation for the organisation, in reference to outsourcing, is re-education or cost saving – and therefore there is focus on each

Table 2. Comparison of outsourcing, partner production, open innovation, open source, and crowdsourcing

Characteristics	Crowdsourcing		Outsourcing		User innovation		Open innovation		Open source	
Environment	Internet	Internet	Internet and beyond	Internet	Internet	Beyond	Internet	Internet	Internet	Internet
Relationships type	Partnership	Partnership	Contract	Partnership	Partnership	Collaboration	Partnership	Partnership	Partnership	Partnership
Choice of suppliers	Public network	Public network	Professional organisations or individuals	Users	Users	R&D, customers, rival companies, academic institutions	Users	Users	Users	Users
Number of suppliers	Unlimited	Unlimited	Contractors only	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited
Payment	Multiple incentives	Multiple incentives	Financial incentives	Multiple incentives	Multiple incentives	Multiple incentives	Multiple incentives	Multiple incentives	Multiple incentives	Multiple incentives
Motivation	Problem solving, seek creative, digging creativity	Problem solving, seek creative, digging creativity	Reduce the cost, to improve efficiency	Innovation	Innovation	Innovation	Problem solving, seek creative, digging creativity, innovation	Problem solving, seek creative, digging creativity, innovation	Problem solving, seek creative, digging creativity, innovation	Problem solving, seek creative, digging creativity, innovation
Risk	Low risk	Low risk	High risk	High risk	High risk	High risk	Low risk	Low risk	Low risk	Low risk

Source: own elaboration.

process in the organisation. In crowdsourcing this is of a creative and open nature. Work specialisation occurs in outsourcing. One may say that it is its inevitable result, further of the social division of work, and action of scale. Crowdsourcing is beneficial to the organisation in case of willingness for innovative differentiation of the potential or social diversification. In outsourcing, business relations are of great importance, whereas in crowdsourcing motivation in participation in a virtual community is more important. Usually all actions connected with crowdsourcing are conducted in the online community, while in outsourcing they are strictly connected with the activity of the organisation. They may also include the transfer of employees and assets from one company to another, however in line with the established model of employment and distribution as well as rates. In crowdsourcing such constant costs do not exist. In outsourcing the quality of the executed work is guaranteed by agreements, whereas in crowdsourcing there is no guarantee of the quality of the obtained work. Another difference is that outsourcing is more often a one-to-one relationship, while crowdsourcing is a one-to-many relationship. In light of the foregoing crowdsourcing should not be identified with outsourcing.

Crowdsourcing vs. user innovation. As already mentioned, crowdsourcing is based on the work of the crowd, and therefore of the virtual communities, while user innovation is focused on the user of a given product or service (von Hippel, 2005). Her/his work is driven by the needs and willingness to participate in creating innovations in the final phase of the product or service. Crowdsourcing is not limited only to innovations. The users may take part in the whole creation process, they can also think up products or services from scratch. What joins these two notions is the medium – in both cases the Internet is used. In the author's opinion participation may constitute an intersection of these two notions, nonetheless in user innovation the interested users take direct part. In other words, these are notions of a different meaning and they cannot be identical.

Crowdsourcing vs. open innovation. The main idea of open innovations is the organisation's opening to knowledge, which is present in the surroundings. Knowledge is acquired within a built network of contacts, i.e. specialised research institutions, suppliers, users, customers, and competitors. Organisations not only acquire access to knowledge, but they should also make available their inventions,

which they do not make use of, to other entities based on selling of licenses, create consortiums, or spin-off type companies (Sloane, 2011). It is pointed out in the literature that open innovations and crowdsourcing fit in the same paradigm, what joins them is opening of the organisation's processes to dissemination of knowledge, with the following difference that open innovations focus on innovations, while crowdsourcing does not. Open innovations are also considered to be a form of outsourcing and they constitute a bidirectional process which includes the purchase and sale of knowledge and its processes. Another difference is constituted by interactions: in open innovations these are interactions between the organisations, in crowdsourcing between the organisation and the crowd. In the author's opinion it is difficult to consider crowdsourcing as a part of or a form of open innovations. In case of crowdsourcing we do not limit ourselves only to innovations and collaboration with other organisations, but we assume a broader perspective based on crowd wisdom and its willingness to share knowledge.

Crowdsourcing vs. open source. Few definitions consider crowdsourcing as an application created on the basis of open source rules. They are defined as free access to texts with a possibility of changing, copying, or disclosing them (Foray & Zimmermann, 2001). The basis is self-organisation, possibility to have free access to source codes of software through the Internet and their change, improvement, or dissemination. This is a feature which joins crowdsourcing and open source, whereby crowdsourcing is not limited to software development. Participation in open source results from various motivations and this is what joins it with crowdsourcing. Both terms have, however, a different status: open source is an application of the crowdsourcing production mode rather than a similar concept. Open source also borrows from the user innovation approach (von Hippel & von Krogh, 2003). This favours the opinion that crowdsourcing makes use of the rule of open sources, however the users are obligated by rules of action, rules imposed by the organisation which directs the task to the crowd.

Summing up, one also observes mixing up crowdsourcing with open innovations or user innovation as well as open resources. The main idea of open innovations (Chesbrough, 2003) is the fact that organisations should only rely not on their own research, but also knowledge developed in their surroundings. Some authors think that

crowdsourcing and open innovations share the same paradigm (Albors et al., 2008) – dispersed knowledge and opening of organisation processes cannot constitute a source of competitive advantage. However, there appears a difference: open innovations focus on innovations while crowdsourcing does not. Moreover, open innovations concern the flows of knowledge between organisations and crowdsourcing covers the links between the organisation and the crowd as a large team of anonymous people. Some researchers think that crowdsourcing constitutes an underdeveloped type of open innovations (Marjanovic et al., 2012), or their form (Sopińska, 2017). In addition crowdsourcing may be considered to be a way of realising external knowledge flows with the crowd as a specific supplier of knowledge. Some think that crowdsourcing is useful when it comes to problem solving, but it does not allow for capturing values (Bloodgood, 2013). Whereas other discard this and ascertain that it allows it (Afuah & Tucci, 2013). In user innovations (von Hippel, 2005) the users contribute to creation of innovations since they are ready to bear a part of the costs and threats connected with them.

METHODOLOGY OF A SYSTEMATIC LITERATURE REVIEW

In order to identify the state of knowledge, integration, and synthesis of the existing literature output, but also the main directions of further research in the scope of crowdsourcing – a systematic literature review was used. According to its methodology (Czakon, 2011), the whole procedure includes three stages: (1) selecting databases and a set of publications, (2) selection of publications, elaborating the databases, (3) bibliometric analysis, analysis of contents, and verification of the usefulness of the obtained results for further research.

According to the assumed procedure, in the first stage a choice of databases had been made and next they were analysed. The possibilities of a thorough search and the completeness of these databases were taken into account. Taking this into account, seven international databases were chosen: Ebsco, Elsevier/Springer, Emerald, Proquest, ISI Web of Science, Scopus, and Wiley. As a result of searching through these databases over 40,000 publications were obtained. In order to establish the state of knowledge and the existing research findings

a review of Polish databases was carried out. Taking into consideration significant dispersion and a lack of compact databases – two databases were considered, i.e. BazEkon and CEON. These databases contain a total of 269 publications devoted to crowdsourcing. It should however be indicated that nonetheless their review will constitute only a complementation of this article.

In the second stage the following limitations were imposed on the identified articles: (1) full text, reviewed publications, (2) “crowdsourcing” in the title, abstract, keywords, (3) area of management sciences. Those publications, which did not strictly concern crowdsourcing treated it rather as an ancillary subject. Only those publications were deemed to be important which leading object of analyses was the notion of crowdsourcing placed in the title and keywords. Publications on information technology, social, technical, and mathematical sciences, humanities and medical sciences were excluded from the set. Publications that were duplicated, dissertations, and book chapters were also eliminated. Full text articles published in journals as well as the so-called proceedings were included.

In stage three, the collected literature base in the form of 41 publications selected from English language databases and 43 publications selected from Polish language databases – were subjected to an in-depth analysis of the contents. By the same token publications from the period of 2006–2016, placed in purposefully chosen full English and Polish language databases were analysed.

CONCEPTUALISATION OF CROWDSOURCING ON THE BASIS OF MANAGEMENT SCIENCES

Conceptualisation, as well as a reference to related terms, constitutes a condition necessary for further research in favour of operationalisation and measurement as well as realisation of empirical studies on crowdsourcing. Thus, in the course of conceptualisation a meaning of the notion, agreed for research purposes, is created. It requires specification of the notions indicators and describing its dimensions. Moreover, the definitions precise in an operational sense how the variables related to the notion of crowdsourcing will be measured.

The most often quoted academic work related to crowdsourcing defines it as an “act of a company or institution taking a function

once performed by employees and outsourcing it to an undefined (and generally large) network of people in the form of an open call. This can take the form of peer-production (when the job is performed collaboratively), but is also often undertaken by sole individuals" (Howe, 2006). Nonetheless, Howe's approach seems to have certain limitations. Firstly, the relation between crowdsourcing and outsourcing. In outsourcing a supplier chosen by the organisation hands over services or products according to the requirements and agreement. In crowdsourcing we deal with the crowd, which is difficult to specify or define. Secondly, partner production. It assumes decentralisation of tasks, big dispersion of the team, independent choice of tasks based on self-evaluation of skills and interests and treating the created products or services as common goods accessible to a broader circle of receivers. Crowdsourcing should however be treated as a broader term: the crowd may focus its actions also on other activities. Thirdly, open call. However, differences appear between crowdsourcing and open access. In crowdsourcing organisations make use of intellectual property rights (Avenali et al., 2013), for example: they implement the award-winning ideas, whereas in open access they cannot be used.

In case of D.C. Brabham's (2008) approach, crowdsourcing is understood as a way to solve problems as well as a production model, in which in order to achieve goals characteristic of an organisation collective intelligence of online communities is used. In this definition the author also points to an unknown group of users. The definition suggests that he limits crowdsourcing to problem solving, however he understands this in a very broad sense: creating new products, seeking consensus in social issues, processing large data sources, or explaining difficult scientific problems (Brabham, 2013). In the author's opinion not every online community should be perceived as a crowdsourcing one. He thinks that this is a group of users centred around a specific project. This approach differs, therefore, from the approach of J. Howe's who acknowledges that it is an unidentified group of people. Whereas, D. Brabham separates the idea of open source from crowdsourcing and considers it to be an expression of partner production.

It should be emphasised that the definitions of J. Howe and D.C. Brabham are the most often quoted ones in academic work of other authors. Nonetheless, many researchers attempt to create their own proposals in this scope (Table 3).

Table 3. Definitions of crowdsourcing

Date	Author(s)	Definition
2006	Reichwald & Piller	Interactive creation of values: collaboration between the organisation and the users in the development of a new product
2008	Chanal & Caron-Fasan	Opening of the innovation process in the organisation in order for integration through a competence network
2006	Howe	Act of a company or institution taking a function once performed by employees and outsourcing it to an undefined (and generally large) network of people in the form of an open call. This can take the form of peer-production (when the job is performed collaboratively), but is also often undertaken by sole individuals
2008	Kleeman et al.	Form of integration of users or consumer in internal processes of value creation. The essence of crowdsourcing is an intended mobilisation with allocation of commercial exploration of creative ideas and other form of work performed by the consumer
2008	Yang et al.	Making use of a virtual community to transfer tasks
2009	DiPalantino & Vojnovic	Methods while using an open call to encourage communities to solve problems
2009	Vukovic	A new production model widespread on the Internet in which people collaborate in order to complete a task
2009	Whitla	The process of outsourcing of an organisation's activity to the virtual community. The process of organising work in which the organisation offers payment for realisation of tasks by the crowd members
2010	Buecheler et al.	A specific case of collective intelligence
2010	Burger-Helmchen & Penin	The way in which the organisation gains access to external knowledge
2010	Heer & Bostok	A relatively new phenomenon in which Internet workers carry out one or more micro-tasks, often for a micro-payment ranging from \$ 0.01 to \$ 0.10 for the tasks
2010	La Vecchia & Cisternino	Tools for solving problems in the organisation
2010	Ling	A new business model of innovation through the Internet
2010	Mazzola & Distefano	Purposeful mobilisation through web 2.0, creation of innovative ideas, incentives for problem solving, where users coming forward voluntarily are taken into account by the organisation in the process of solving internal problems
2010	Oliveira et al.	A way of outsourcing to the crowd of tasks related to creating of intellectual assets, often together in order for an easier to access to the necessary palette of skills and experience
2011	Alonso, Lease	Outsourcing of tasks to a large group of people rather than assigning these tasks to the employees or contractors at home

Table 3. cd.

Date	Author(s)	Definition
2011	Bederson & Quinn	People devote themselves to perform Internet tasks managed by organisations
2011	Doan et al.	A method of a general purpose of solving problems
2011	Grier	A way of making use of the Internet to employ a large number of dispersed workers
2011	Heymann & Garcia-Molina	Acquiring one or more Internet users to remote performance of work
2012	Poetz & Schreier	Outsourcing of the phase of generating ideas to potentially large and unknown groups of people in the form of an open call
2013	Brabham	Way of problem solving as well as a production model, in which in order to achieve goals characteristic for an organisation collective intelligence of Internet communities is used

Source: own elaboration.

A definition, following an analysis of 40 definitions of crowdsourcing, was proposed by E. Estellés-Arolas and F. González-Ladrón-de-Guevara. According to their approach crowdsourcing is

a type of participative online activity in which an individual, an institution, a non-profit organization, or company proposes to a group of individuals of varying knowledge, heterogeneity, and number, via a flexible open call, the voluntary undertaking of a task. The undertaking of the task, of variable complexity and modularity, and in which the crowd should participate bringing their work, money, knowledge and/or experience, always entails mutual benefit. The user will receive the satisfaction of a given type of need, be it economic, social recognition, self-esteem, or the development of individual skills, while the crowdsourcer will obtain and utilize to their advantage that what the user has brought to the venture, whose form will depend on the type of activity undertaken (Estellés-Arolas & González-Ladrón-de-Guevara, 2012).

Although this definition basically refers to the essence of crowdsourcing, however it pertains exclusively to online activity – which may be misleading and treat all Internet portals as examples of crowdsourcing. Moreover, it seems to be extremely elaborated. Taking the above into account one may ascertain that the above-mentioned definitions are not fully useful for studying crowdsourcing, since they make reference to related notions. In the author's opinion one may

consider as principal J. Howe's approach, but at the same time reject linking crowdsourcing with outsourcing.

For the needs of realisation of the aim of this article two definitions which exclude and are inconsistent with each other were analysed. For instance T. Erickson (2011) defines crowdsourcing as using cognitive perceptions or enactive capabilities of many people to achieve a defined result, such as solving a problem, classification of a set of data, or decision making. This definition indicates that the crowd involved in crowdsourcing should possess certain capabilities or skills, which are used for solving a problem. Nonetheless, this definition does not define straightforwardly what it is. There is no information whether it is to be an online or offline activity. Other authors, H. Li, B. Yu and D. Zhou (2013) define crowdsourcing as transferring tasks to a dispersed, inexperienced group of people who are called workers. Nevertheless, this definition does not explain the tasks, features, which crowdsourcing platforms should ensure. Moreover, one observes a lack of consensus related to the set of key features of crowdsourcing.

Crowdsourcing is a multi-level notion – this may pose a difficulty in formulating of a definition. Analysing the existing definitions one may agree that it is composed of three elements: the crowd, the initiator, and the process (Howe, 2006; Burger-Helmchen & Pénin, 2010; Geerts, 2009).

Firstly, the crowd. The problems of the output that is being created at present are the following aspects: who creates it?, what she/he should do?, and what she/he gets in return? Most authors agree that the crowd is a general group, usually an undefined large group of people, or online public (Kleeman et al., 2008), which is often named users, consumers, clients, voluntary users, or online communities (Chanal & Caron-Fasa, 2008; Whitla, 2009). It is acknowledged that the crowd in crowdsourcing constitutes a group of amateurs, composed of students, young graduates, scientists, or organisation members (Schenk & Guittard, 2009). Other authors point to network workers (Heer & Bostok, 2010). Their education and intelligence are emphasised here. Classifications of the crowd involved in crowdsourcing appear in the literature: lookers, users, aspiring, and communal (Martineau, 2012). An optimum number of people who should participate in a crowdsourcing initiative is indicated in the literature. Some authors indicate 330,000 persons, others speak of a few thousand. This number may however be limited to a certain type of customers of a given organisation or

special skills (La Vecchia & Cisternino, 2010). The crowd's heterogeneity depends on the type of crowdsourcing initiative. Some authors acknowledge the crowd's heterogeneous nature, where every person brings in their own knowledge. It is assumed that the crowd should undertake the realisation of complicated tasks, but also assess their difficulty and volume. In addition, some authors think that the crowd should solve organisational problems, create new ideas. It is important in crowdsourcing that the undertaken tasks have a clearly defined goal. Tasks realised by the crowd are based on voluntariness while the motivation is the sheer fact of participating in crowdsourcing (Heer & Bostock, 2010). In rare definitions the authors indicate motivation in the form of compensation, social recognition, satisfaction, feeling of one's own value, development of individual abilities, entertainment and play, financial reward, knowledge sharing, or a possibility of an approach to one's work (Kleeman et al., 2008).

Secondly, the initiator. A question appears here: who is it?, what does it receive for the crowd's work? (Burger-Helmchen & Pénin, 2010). The majority of the authors indicate an entity that is understood to be a company (La Vecchia & Cisternino, 2010). Only a few authors include institutions and organisations in their definitions, without indicating specifically whether these have to be companies or not (Brabham, 2008). This may also be the government and non-profit sector. And so, the initiator may be every entity, which has financial resources at its disposal to begin a crowdsourcing initiative. Most authors agree that the initiator wants to achieve the maximum assumed benefits from a given task (Howe, 2006; Vukovic, 2009). Some acknowledge that this is the solution to a problem, others recognise any added value, for example acquisition of talents and knowledge (Howe, 2006) or external knowledge, also in hidden form, access to skills and experience, dispersed external competences, ready ideas, creating values, profit growth, product and service innovations, and social opinions (Burger-Helmchen & Pénin, 2010).

Thirdly, the process. A literature analysis indicates searching for questions on the type of process, type of the used connection, and the used medium (Brabham, 2008). The process elements refer to actions, which make up the crowdsourcing initiative: from the beginning to completing the task's realisation. Only a few authors consider crowdsourcing to be outsourcing, whereas others consider it to be a problem solving process through a dispersed online process, production model,

or business practice, work organisation process, integration with the customer, or open innovation process. They agree on one point that it is an online process, which always involves the crowd. What is of importance here is an open connection, therefore all potential users may participate, nobody is discriminated, there is no limitation to experts only. Among researchers there is a consensus in relation to the medium in crowdsourcing: a clear reference to the Internet is made. It is a specific type of basis on which crowdsourcing develops and acts. Not without significance is the platform as an Internet medium that combines the crowd and initiator. The latter is responsible for ensuring and maintaining of the platform. Nevertheless, differences appear related to the process conditions. Some authors think that crowdsourcing should be carried out anonymously (Hirth et al., 2011), while others state that based on openness and transparency (Fraternali et al., 2012).

Crowdsourcing is an emerging phenomenon, its contours are not clearly defined. A systematic literature review, including an analysis of publications, showed that the area of crowdsourcing is in the early development phase. Nonetheless, the existing output related to crowdsourcing is relatively fragmentary since most publications are those of a theoretical or review nature (Table 4). Theoretical considerations constituted a synthesis of foreign researchers' findings. The remaining publications are constituted by articles which present the results of original research studies of an empirical nature, in particular an analysis of a given case or descriptions of events. The authors aim at getting to know the regularities in the studied phenomena. This statement also concerns the native publications: the majority, apart from the theoretical layer, which constitutes the literature review, contains descriptions of good practices or it refers to data from the Central Statistical Office of Poland and the *Innovation Union Scoreboard Report*.

Table 4. Summary of the conceptual studies

Author/authors	Problematic aspects
Afuah & Tucci (2013)	In certain situations, crowdsourcing transforms the distant into a close search, it contributes to improving problem solving effectiveness and efficiency
Avenali et al. (2013)	The value of an open contract lies at its base, a tool for supporting innovations, collective management of intellectual property and knowledge
Bloodgood (2013)	A good way for solving problems and capturing values

Table 4. cd.

Author/authors	Problematic aspects
Bogers & West (2012)	A perspective of foreseeing based on resources, motivation, values, external values innovations, it constitutes the framework of strategic management of dispersed innovations
Garrigos-Simon et al. (2012)	Possibility of creating open innovations, improvement of management, decision making and making use of new situations
Lampel et al. (2012)	Changes in project management
Lutz (2011)	Value in marketing
Marjanovic et al. (2012)	Possibility of variety
Olson & Rosacker (2013)	Access to open knowledge
Wikhamn & Wikhamn (2013)	Concepts, tool sets, competitions for innovations, related to open innovations, an umbrella of open innovations
Palacios et al. (2015)	A way to find ideas and solutions, it is of principal importance for the innovation process, acquiring of capital, development of new products, conducting of joint ventures and development of result-based services
Zuchowski et al. (2016)	Growth of the internal importance of crowdsourcing in practice
Majchrzak & Malhotra (2013)	Optimises creating of open innovation
Hossain (2012)	A promising choice for generating of ideas, an umbrella of open innovations
Jayanti (2012)	Aid for employees in adapting to changes
Estellés-Arolas et al. (2012)	Co-creation of innovations
Brabham (2013)	A formula which makes possible a process of citizens' participation in the public planning and designing process
Tobing (2015)	Acquiring and managing of projects in order to evaluate crowdsourcing benefits and risks, its relation with project management
Hossain, Kauranen (2015)	Types and fields of research on crowdsourcing and the way to define them in the context of their application

Source: own elaboration.

A synthesis of the existing conceptual output enabled formulating a definition of crowdsourcing: "outsourcing by an organisation or persons, in the form of an open call (online or offline), to an undefined virtual community, of tasks to be executed". The presented definition is a real definition, i.e. such which contains the characteristics of

a given phenomenon or subject and one that regulates – its aim is to clarify and explain the meaning of the term. An argument for such approach is a conviction of giving strict significance to words already in use, without changing their principal sense. In the assumed approach crowdsourcing is a multi-level notion, i.e. it includes the virtual community, the initiator, and technology.

CONCLUSIONS

The considerations made in the article enabled integration, synthesis, arrangement of the existing conceptual achievements and drawing of a number of conclusions:

1. In the presented approach crowdsourcing constitutes a new, but important object of research, which still remains identified to a little extent. Knowledge in this scope is fragmentary and many cognitive gaps are present in it. It may be considered to be an important research object.
2. The approaches and definitions proposed in the existing literature seem to be inadequate as they do not provide knowledge about what crowdsourcing is – which may hinder future investigations and research analyses.
3. Despite the recommendations included in the subject literature, the definitions proposed by the authors do not cover the multi-level nature of crowdsourcing.
4. In the author's opinion, the conceptualisation proposal included in the article and the results of the systematic literature review may constitute a basis for further, in-depth analyses of crowdsourcing. They should focus on operationalisation and methodology of measuring crowdsourcing, taking into account its three levels.

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KONCEPTUALIZACJA POJĘCIA "CROWDSOURCING" W NAUKACH O ZARZĄDZANIU

Tło badań. Crowdsourcing jest pojęciem stosunkowo młodym, niemniej wzbudzającym coraz większe zainteresowanie badaczy. Wynika to z jego potencjału, pozwala on bowiem na doskonalenie procesów biznesowych, tworzenie otwartych innowacji, budowanie przewagi konkurencyjnej, dostęp do doświadczenia, informacji, umiejętności i pracy tłumu, rozwiązywanie problemów, zarządzanie kryzysowe, poszerzenie dotychczasowej działalności i oferty organizacji, kreowanie wizerunku organizacji, usprawnianie komunikacji z otoczeniem, optymalizację kosztów działalności organizacji. Jednak mimo że tematyka crowdsourcingu stanowi jeden z wyłaniających się obecnie kierunków badań na gruncie nauk o zarządzaniu, to obserwuje się swoistą trudność eksploracji. Wynikać ona może z niespójności w konceptualizacji bądź eksplikacji tego pojęcia.

Cele badań. Celem artykułu jest próba konceptualizacji, na podstawie dotychczasowych wysiłków badawczych, crowdsourcingu na gruncie nauk o zarządzaniu. W artykule przedstawiono propozycję konceptualizacji pojęcia crowdsourcingu z uwzględnieniem jego poziomów.

Metodyka. Dla potrzeb określenia, oceny oraz identyfikacji dotychczasowego stanu wiedzy na temat crowdsourcingu przeprowadzono systematyczny przegląd literatury. Umożliwił on zapoznanie się z wynikami badań zbliżonych, ich selekcji i krytycznej analizie i na tej podstawie posłużył do poszerzenia wcześniejszych ustaleń innych badaczy. Analizie poddano pełnotekstowe, największe i obejmujące większość czasopism z zakresu zarządzania strategicznego bazy tj. Ebsco, Elsevier/Springer, Emerald, Proquest, Scopus oraz ISI Web of Science. W celu ustalenia stanu wiedzy i dotychczasowych ustaleń dokonano także przeglądu baz danych w Polsce: BazEkon i CEON. Analizie poddano 54 opracowania z baz anglojęzycznych oraz 41 z baz polskojęzycznych z okresu 2006-2017.

Kluczowe wnioski. Przegląd dorobku naukowego wykazał niespójność w konceptualizacji pojęcia crowdsourcingu. Proponowane w dotychczasowej literaturze podejścia są niewystarczające i nie pozwalają na pełne zrozumienie crowdsourcingu

Słowa kluczowe: crowdsourcing, konceptualizacja, przesłanki